



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

| APPLICATION NO.                     | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-------------------------------------|-------------|----------------------|---------------------|------------------|
| 10/798,548                          | 03/10/2004  | Seung-hwan Moon      | 1190860-991450      | 6388             |
| 26379                               | 7590        | 12/29/2005           | EXAMINER            |                  |
| DLA PIPER RUDNICK GRAY CARY US, LLP |             |                      | REHM, ADAM C        |                  |
| 2000 UNIVERSITY AVENUE              |             |                      | ART UNIT            |                  |
| E. PALO ALTO, CA 94303-2248         |             |                      | PAPER NUMBER        |                  |

2875

DATE MAILED: 12/29/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

|                              |                        |   |  |
|------------------------------|------------------------|---|--|
| <b>Office Action Summary</b> | <b>Application No.</b> | <b>Applicant(s)</b> <span style="float: right;">60</span> |  |
|                              | 10/798,548             | MOON, SEUNG-HWAN  |  |
|                              | <b>Examiner</b>        | <b>Art Unit</b>   |  |
|                              | Adam C. Rehm           | 2875  |  |

**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 10 March 2004.
- 2a) ☐ This action is **FINAL**.                      2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All    b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claims 1-2, 4-5 and 7 are rejected under 35 U.S.C. 102(b) as being anticipated by MOON (US 6,798,150), which discloses a backlight for directing light to an LCD panel (Column 5, Lines 24-51) comprising:

- First and second lamp groups including a plurality of alternately-arranged lamps (50, Fig. 5 illustrates two columns of lamps with the left column a first group and the second column a second group);
- First and third electrode means electrically connected to both electrodes of each of the lamps constituting the first lamp group (53a and 53b, first column);
- Second and fourth external electrode means electrically connected to both electrodes of each of the lamps constituting the second lamp group (53a and 53b, second column); and
- First and second inverters for first and second groups (55, Fig. 6).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

Art Unit: 2875

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 3 and 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over MOON (US 6,798,150). MOON discloses the invention as claimed, but does not specifically disclose a phase difference in voltage output from the first and second inverters to be less than 90 degrees. However, it has been held that where the conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation. *In re Aller*, 105 USPQ 233, 235. The normal desire of scientists or artisans to improve upon what is already generally known provides the motivation to determine...the optimum combination. *In re Hoeschele*, 160 USPQ 809. As such, it would have been obvious to one of ordinary skill in the art at the time of invention to modify MOON and use first and second inverters with phase differences of less than 90 degrees in order to provide an optimum range for superior LCD performance.

3. Claims 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over MOON (US 6,798,150) as applied above and further in view of KWON ET AL. (US 5,953,003). MOON discloses the claimed invention, but does not specifically disclose an LCD comprised of a gate-driving unit for sequentially applying a gate-on signal to gate lines and a data-driving unit for applying a data signal to data lines. However, KWON teaches an LCD having a gate driving circuit for sequentially applying a signal to a plurality of gate lines to drive them and a data driving circuit for applying a signal to

Art Unit: 2875

data lines for the purpose of holding data and then transmitting it (Column 2, Line 54-Column 3, Line 10). It would have been obvious to one of ordinary skill in the art at the time of invention to modify MOON and use the gate and data driving circuits as taught by KWON in order to hold data and transmit data.

4. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over MOON (US 6,798,150) and KWON ET AL. (US 5,953,003). MOON and KWON disclose the invention as claimed, but do not specifically disclose a phase difference in voltage output from the first and second inverters to be less than 90 degrees. However, it has been held that where the conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation. *In re Aller*, 105 USPQ 233, 235. The normal desire of scientists or artisans to improve upon what is already generally known provides the motivation to determine...the optimum combination. *In re Hoeschele*, 160 USPQ 809. As such, it would have been obvious to one of ordinary skill in the art at the time of invention to modify MOON and use first and second inverters with phase differences of less than 90 degrees in order to provide an optimum range for superior LCD performance.

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

5. YER (US 2003/0122814) discloses an LCD comprising gate and data driving units.

Art Unit: 2875

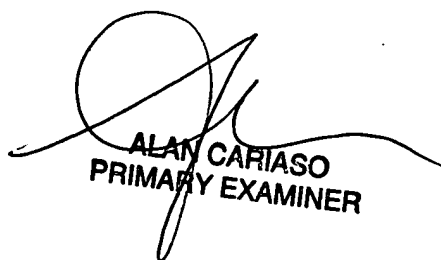
***Correspondence***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Adam C. Rehm whose telephone number is 571.272.8589. The examiner can normally be reached on M-F 9-5:30 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sandra O'Shea can be reached on 571.272.2378. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

ACR  
12/26/2005

  
ALAN CARIASO  
PRIMARY EXAMINER